Federal Funding Opportunity
National Institute of Standards and Technology
Fiscal Year (FY) 2011 Measurement Science and Engineering Research Grants Programs

Overview Information

1. Federal Agency Name(s): Department of Commerce, National Institute of Standards and Technology (NIST)

2. Funding Opportunity Title: Measurement Science and Engineering (MSE) Research Grants Programs for: (1) the Material Measurement Laboratory (MML); (2) the Physical Measurement Laboratory (PML); (3) the Engineering Laboratory (EL); (4) the Fire Research Program; (5) the Information Technology Laboratory (ITL); (6) the NIST Center for Neutron Research (NCNR); (7) the Center for Nanoscale Science and Technology (CNST); (8) the Standards Services Group (SSG); and (9) the Law Enforcement Standards Office (OLES).

3. Announcement Type: Initial Announcement

4. Funding Opportunity Number: 2011-MSE-01

5. Catalog of Federal Domestic Assistance (CFDA) Number(s): 11.609

6. Dates: For all programs listed in this notice applications will be considered on a continuing basis. For all programs except the *Fire Research Grants Program*, applications received after June 1, 2011 may be processed and considered for funding under this solicitation in the current fiscal year or in the next fiscal year, subject to the availability of funds. For the *Fire Research Grants Program*, applications received after January 30, 2011 may be processed and considered for funding under this solicitation in the current fiscal year or in the next fiscal year, subject to the availability of funds. Applications, paper and electronic, must be received prior to the announcement on Grants.gov of the FY 2012 solicitation for the NIST MSE Research Grants Programs in order to be processed under this solicitation.

Executive summary: The National Institute of Standards and Technology (NIST) announces that the following programs are soliciting applications for financial assistance for FY 2011: (1) the Material Measurement Laboratory Grants Program; (2) the Physical Measurement Laboratory Grants Program; (3) the Engineering Laboratory Grants Program; (4) the Fire Research Grants Program; (5) the Information Technology Laboratory Grants Program; (6) the NIST Center for Neutron Research Grants Program; (7) the Center for Nanoscale Science and Technology Grants and Cooperative Agreements Program; (8) the Standards Services Group Grants and Cooperative Agreements Program; and (9) the Law Enforcement Standards Office (OLES) Grants and Cooperative Agreements Program.

Full Text of Announcement

a. Funding Opportunity Description:

Material Measurement Laboratory Grants Program

Authority: 15 U.S.C. § 272(b) and (c)

Program Description: The *Material Measurement Laboratory (MML) Grants Program* will provide grants and cooperative agreements consistent with the MML mission in the following fields: Analytical Chemistry, Biochemical Science, Ceramics, Chemical and Biochemical Reference Data, Materials Reliability, Metallurgy, Polymers, Surface and Microanalysis Science, and Thermophysical Properties of Materials.

The MML is one of two metrology laboratories within the National Institute of Standards and Technology (NIST). The MML supports the NIST mission by serving as the national reference laboratory for measurements in the chemical, biological and material sciences. The MML is entrusted with developing, maintaining, advancing and enabling the measurement system in these areas for the nation. Our activities range from fundamental and applied research on the composition, structure and properties of industrial, biological, and environmental materials and processes to the development and dissemination of certified reference materials, critically evaluated data and other programs that help assure measurement quality. Our research and measurement services support areas of national importance, such as:

- Advanced materials, from nanomaterials to structural steels to complex fluids
- Electronics, from semiconductors to organic electronics
- Energy, from characterization and performance of fossil and alternative fuels to next-generation renewables

- Environment, from the measurement of automotive exhaust emissions to contaminant monitoring to assessment of climate change and the health and safety aspects of engineered nanomaterials
- Food safety and nutrition, from contaminant monitoring to ensuring the accuracy of nutritional labels
- Health care, from clinical diagnostics to tissue engineering and more efficient manufacturing of biologic drugs
- Infrastructure, from the aging of the country's bridges and pipelines to the quality of our drinking water
- Manufacturing, from lightweight alloys for fuel-efficient automobiles to biomanufacturing and data for chemical manufacturing
- Safety, security and forensics, from gunshot and explosive residue detection to ensuring the performance of body armor materials and DNA-based human identity testing

The MML also coordinates the NIST-wide Standard Reference Materials® and Standard Reference Data programs, which include production, documentation, inventory, marketing, distribution, and customer service.

The research and measurement services provided by the Material Measurement Laboratory underpin measurements in the chemical, biological and material sciences and support innovation in both mature and emerging industrial sectors. As examples, our work to enable reliable and trustworthy measurements and data help

- Physicians make more accurate diagnoses and better monitor the effectiveness of new drug therapies
- Policy makers and regulatory bodies make science-based decisions about environmental quality
- Investigators make cases based on sound DNA and other forensic evidence
- Trading partners confidently exchange commodities such as foods, fuels, materials and structural steel
- Manufacturers reliably develop and use advanced materials and processes
- Industry link the performance of materials with their structure and processing, concepts necessary for the design of products from coatings and composites to magnetic devices and sensors

We shape our programs based on national needs with input from industry and government. Our research base provides us with the flexibility to respond to the country's priorities and rapid advances in science and technology. Our success depends upon timely dissemination of our:

- Critically evaluated measurement methods
- Standard Reference Materials®
- Standard Reference Data
- Publications describing our measurement science and technologies
- Training, education and best practices, of which Recommended Practice Guides are one example

The appropriate Division Chief for each field of research described in this section may be contacted for clarification of the program objectives. Additional information about the Divisions and MML Programs may be obtained at the following Web site: http://www.nist.gov/mml.

MML conducts its research and is organized along disciplinary lines:

A. Analytical Chemistry Division: Chemical measurements research and services in: Analytical sensing technologies; Classical analytical methods; Gas metrology; Nuclear analytical methods; Organic analytical methods; and Spectrochemical measurement methods. The contact person for this division is: Dr. Stephen Wise, and he may be reached at (301) 975-3108.

B. Biochemical Science Division: DNA chemistry, sequencing; Protein structure, properties, and modeling; Biomaterials; Biocatalysis and bioprocessing measurements. The contact person for this division is Dr. Laurie Locascio, and she may be reached at, (301) 975-2129.

C. Ceramics Division: The primary objective is to collaborate with or conduct research consistent with the division projects in nanomechanical properties, functional properties, structure determination methods, and synchrotron methods through the development of measurement instrumentation, methods, standards, and comprehensive databases. The contact person for this division is: Dr. Douglas Smith and he may be reached at (301) 975-5768 or by e-mail at douglas.smith@nist.gov.

D. Chemical and Biochemical Reference Data: Basic reference data; Data for process and product design; Combustion and kinetics; and Computational chemistry. The contact person for this division is Dr. Carlos Gonzalez, and he may be reached at (301) 975-2483.

E. Materials Reliability Division: The primary objective is to collaborate with or conduct research consistent with the division activities in the metrology of microelectronic and optoelectronic structures, thin films and nanostructures, and

biomaterials. The contact person for this division is: Dr. Stephanie Hooker and she may be reached at (303) 497-4326 or by e-mail at shooker@boulder.nist.gov.

F. Metallurgy Division: The primary objective is to collaborate with or conduct research consistent with division programs in magnetic materials, computational materials science, mechanics of materials, nanostructured materials and processing, and electronic materials. The contact person for this division is: Dr. Daniel Josell and he may be reached at (301) 975-5788 or by e-mail at daniel.josell@nist.gov.

G. Polymers Division: The primary objective is to collaborate with or conduct research consistent with the division programs in sustainable polymers, polymers for energy and electronics, biomaterials, and complex fluids through participation in research on metrology, synthesis, processing and characterization of structure, mechanical, thermal and electrical properties. The contact person for this division is: Dr. Kalman Migler and he may be reached at (301) 975-4876 or by e-mail at kalman.migler@nist.gov.

H. Surface and Microanalysis Science Division: Nanoscale chemical characterization; Particle characterization and standards; Electronic and advanced materials characterization; Surface and interface chemistry; Advanced isotope metrology. The contact person for this division is: Dr. John Small, and he may be reached at (301) 975-3914.

I. Thermophysical Properties Division: Properties of energy-related fluids; Fundamental studies of fluids; Cryogenic technologies. The contact person for this division is Dr. Daniel Friend, and he may be reached at (303) 497- 5424.

Physical Measurement Laboratory Grants Program

Authority: 15 U.S.C. § 272(b) and (c)

Program Description: Program Description: The *Physical Measurement Laboratory (PML) Grants Program* will provide grants and cooperative agreements consistent with the PML mission in the broad areas of mechanical metrology, semiconductors, ionizing radiation physics, medical physics, biophysics, neutron physics, atomic physics, optical technology, optoelectronics, electromagnetics, time and frequency, quantum physics, weights and measures, quantum electrical metrology, temperature, pressure, flow, far UV physics and metrology with synchrotron radiation.

All proposals submitted to the Physical Measurement Laboratory Grants Program must be in accordance with the program objectives listed below. The appropriate Program Manager for each field of research may be contacted for clarification of the program objectives.

A. Physical Measurement Laboratory Office, 680 – Financial support may be provided for conferences, workshops, or other technical research meetings that are relevant to the mission of the Physical Measurement Laboratory. Support is generally provided in increments of $5,000 per award.

B. Mechanical Metrology Division, 681 – The primary objective is to collaborate or conduct research consistent with the division's programs in the areas of engineering metrology, large-scale dimensional metrology, nanometer-scale metrology (including nano-manufacturing), surface metrology, mass metrology, force metrology, acoustic pressure metrology, and vibration metrology. The contact person for this division is Dr. Michael Postek and he may be reached at (301) 975-2299 or michael.postek@nist.gov.

C. Ionizing Radiation Division, 682 – The primary objective is to provide primary standards, measurement methods, and technology to collaborate or conduct research consistent with the division's work in meeting national needs in radiation interactions and dosimetry, quantitative medical imaging, neutron interactions and dosimetry, and radioactivity, including both theoretical/experimental and applied research programs in support of industry, health care, and homeland security. The contact person for this division is Dr. Lisa R. Karam and she may be reached at (301) 975-5561 or lisa.karam@nist.gov.

D. Semiconductor Electronics Division, 683 – The primary objective is to collaborate or to conduct research consistent with the division's programs in the areas of silicon CMOS (complementary metal-oxide semiconductor) technology, MicroElectroMechanical Systems (MEMS), power electronics, nanoelectronics, nanobiotechnology, and electronic commerce. The contact person for this division is Dr. David Seiler, and he may be reached at (301) 975–2054 or david.seiler@nist.gov.

E. Atomic Physics Division, 684 – The primary objective is to collaborate or conduct research consistent with division programs aimed at determining basic atomic properties and developing new metrology techniques in atomic spectroscopy, making precision spectroscopic measurements, measuring fundamental quantum processes in nanophotonic and ultra cold

atomic systems including Bose-Einstein condensates and Fermi degenerate gases, and advancing quantum information science and laser cooling and trapping techniques. The contact person for this division is Dr. Carl J. Williams and he may be reached at (301) 975-3200 or carl.williams@nist.gov.

F. Optical Technology Division, 685 – The primary objective is to develop, improve, and maintain national standards for radiation thermometry, spectroradiometry, photometry, and spectrophotometry and to conduct basic theoretical and experimental research on the photophysical and photochemical properties of materials and biomolecular systems, on radiometric and spectroscopic techniques and instrumentation, and on the application of optical technologies to national needs. The contact person for this division is Dr. Gerald T. Fraser and he may be reached at (301) 975-2316 or gerald.fraser@nist.gov.

G. Optoelectronics Division, 686 – The primary objective is to collaborate or to conduct research consistent with the division's programs in the area of optoelectronics. The contact person for this division is Dr. Robert Hickernell and he may be reached at (303) 497–3455 or robert.hickernell@nist.gov.

H. Electromagnetics Division, 687 – The primary objective is to collaborate or to conduct research consistent with the division's programs in the areas of radio-frequency and microwave technology, electromagnetic fields, magnetics and superconductors (bulk), and MRI imaging metrology. The contact person for this division is Dr. Perry Wilson and he may be reached at (303) 497–3406 or perry.wilson@nist.gov.

I. Time and Frequency Division, 688 – The primary objective is to collaborate or conduct research consistent with the division's basic and applied research programs in the areas of time and frequency standards, phase noise measurements, network synchronization, ion storage, quantum information, atomic standards and optical frequency measurements in support of future standards, chip-scale atomic clocks and related devices, time and frequency dissemination services, and time and frequency applications such as navigational systems and telecommunications. The contact person for this division is Dr. Thomas R. O'Brian and he may be reached at (303) 497-4570 or thomas.obrian@nist.gov.

J. Quantum Physics Division, 689 – The primary objective is to collaborate or conduct research consistent with the division's basic and applied research programs in the areas of quantum degenerate gases, ultrafast phenomena, femtosecond laser frequency comb development and applications, precision quantum measurements, chemical physics, nanotechnology, and biophysics. The contact person for this division is Dr. Thomas R. O'Brian and he may be reached at (303) 497-4570 or thomas.obrian@nist.gov.

K. Weights and Measures Division, 690 – The primary objective is to provide grants and cooperative agreements in the broad areas of documentary standards and legal metrology. Specific objectives of interest in these areas include: evaluation of the impact of legal metrology on commerce, and topics related to health, safety and the environment as well as support for specific standards related activities, including development of web-based information systems. Support for legal metrology will include grants to the states for: purchase of specialized equipment required to conduct inspections and tests; purchase of specialized metrology laboratory equipment; purchase of software/hardware needed to collect data of inspection records/results; and conducting training schools for weights and measures field inspectors. Financial support may be provided for conferences, workshops, or other technical research meetings that are relevant to the mission and programs of the division. The contact person for this division is Ms. Carol Hockert and she may be reached at (301) 975-8091 or carol.hocker@nist.gov.

L. Quantum Electrical Metrology Division, 697 – The primary objective is to collaborate or to conduct research consistent with the division's programs in the areas of national electrical standards (including quantum-based electrical standards), electronic instrumentation, and superconductors (cryoelectronics). The contact person for this division is Dr. Michael Kelley and he may be reached at (303) 497-4736 or michael.kelley@nist.gov.

M. Temperature, Pressure and Flow Metrology Division, 698 – The primary objective is to collaborate or to conduct research consistent with the division's metrology activities in the areas of flow, humidity, pressure, temperature, and vacuum. The contact person for this division is Dr. Gregory Strouse and he may be reached at (301) 975-4803 or gregory.strouse@nist.gov.

N. Electron and Optical Physics Division, 699 – The primary objective is to collaborate or conduct research consistent with the division's programs in far ultraviolet radiometric metrology, the characterization of EUV optical devices used in semiconductor lithography and remote sensing applications, and fundamental Bose-Einstein condensation and quantum information. The contact person for this division is Dr. Charles W. Clark and he may be reached at (301) 975-3709 or charles.clark@nist.gov.

Engineering Laboratory Grants Program

Authority: 15 U.S.C. § 272(b) and (c)

Program Description: *The Engineering Laboratory (EL) Grants Program* will provide grants and cooperative agreements in the following fields of research: Machine Tool and Machining Process Metrology, Intelligent Systems, and Information Systems Integration for Applications in Manufacturing, Structures, Construction Metrology and Automation, Inorganic Materials, Polymeric Materials, HVAC & R Equipment Performance, Mechanical Systems and Controls, Heat Transfer and Alternative Energy Systems, Computer Integrated Building Processes, Indoor Air Quality and Ventilation, the National Earthquake Hazard Reduction Program, and Building Economics. Financial support may be provided for conferences, workshops, or other technical research meetings that are relevant to the mission of the Engineering Laboratory.

All proposals submitted must be in accordance with the program objectives listed below. The appropriate Program Manager for each field of research may be contacted for clarification of the program objectives.

The *Engineering Laboratory's Grants and Cooperative Agreements Program* supports the function of the Engineering Laboratory , which is to promote the development and dissemination of advanced manufacturing and construction technologies, guidelines, and services to the U.S. manufacturing and construction industries through activities including measurement science research, performance metrics, tools and methodologies for engineering applications, and critical technical contributions to standards and codes development.

All proposals submitted must be in accordance with the program objectives listed below. The appropriate Program Manager for each field of research may be contacted for clarification of the program objectives.

The Office of Applied Economics - 730.01- supports technology deployment to government agencies and construction and fire-related industries. It provides standardized methods, economic models, training programs and materials and expert technical consulting in support of resource allocation decisions and uses techniques such as benefit-cost analysis, life-cycle costing, multi-criteria decision analysis and econometrics to evaluate new technologies. The contact person for this group is Robert Chapman, who can be reached at 301-975-2723.

The National Earthquake Hazards Reduction Program (NEHRP) Office - 730.02 – The primary research objective is to conduct applied, problem-focused research through a combination of intramural and collaborative extramural programs to improve U.S. seismic design and construction practices. Areas of emphasis include developing the technical basis for performance-based seismic engineering (PBSE); providing technical support for the earthquake engineering practice and associated model building code development; developing technical resources, tools, and guidelines that improve earthquake engineering practice; disseminating information on earthquake engineering technologies to earthquake practitioners; and developing tools that enhance the productivity of earthquake engineering design and construction productivity, economy, and effectiveness. Research needs references may be found at http://www.nehrp.gov/library/researchneeds.htm . The NEHRP contact person is Dr. John R. Hayes, Jr., who can be reached at 301-975-5640 or jack.hayes@nist.gov . http://www.nehrp.gov/library/researchneeds.htm

Materials and Construction Research Division, 731 -The primary objective is to collaborate with or conduct research consistent with the laboratory programs in the areas of Structures, Construction Metrology and Automation, Inorganic Materials, and Polymeric Materials (including safety, security, and sustainability of building and physical infrastructure, service-life performance of building materials, and construction cycle time reductions). The contact person for this division is: Dr. Jonathan Martin who can be reached at 301-975-6717.

Building Environment Division, 732 -The primary objective is to collaborate with or conduct research consistent with the laboratory programs in areas related to measurement science needed to enable Net Zero High Performance Green Buildings. The breadth of this area includes measurement science associated with the building envelope, HVAC equipment, renewable energy systems, building controls/building automation systems, and equipment used to achieve acceptable indoor air quality. In particular grants are sought that would:

- Enable building energy-use reduction through in-situ performance measurements. Measurement systems are required that can provide detailed, ongoing information on how energy is being used within a building, thus encouraging owners/occupants to make informed energy use decisions. Non-destructive measurement systems are also needed to identify construction defects, such as insulation voids, and identify performance degradations in equipment such as heating and cooling systems.
- Enable energy-use reduction through embedded intelligence in building controls.

The key to realizing design potentials is combining new measurement technology and performance metrics with analysis techniques that can be implemented in building automation and control products. The resulting systems have a distributed, embedded intelligence that can detect and respond to faults and operational errors and inefficiencies.

- Provide measurement science for emerging building technologies.
  Potential users of building energy technologies require actual, as opposed to advertised or rated performance measures and data before making capital investments. Credible performance measures and data will create market demand for emerging building energy technologies, economies of scale, and reduced cost.
- Develop carbon footprint metrics/tools for building sustainability evaluation.
  Next-generation metrics and tools enabling rigorous carbon footprint assessment over the building service life are needed to link green building technology innovation to environmental/economic benefits.

Proposals are also sought in the areas of information representation and exchange; computer integrated building processes and services. The contact person for this division is: Dr. A. Hunter Fanney, who can be reached at 301- 975-5864. For details on these various activities, please see the Engineering Laboratory Web site at http://www.nist.gov/EL.

Manufacturing Systems Integration Division, 734 - The primary objective is to pursue state-of-the-art, information technology-based solutions to manufacturing systems integration problems. Solutions should support the development of new types of interface standards and new methods for testing the implementation of those standards. Research is to be conducted in collaboration with NIST programs in areas that include supply chain logistics, supplier discovery, distributed manufacturing simulation, systems dynamics to support sustainable manufacturing, product and process information models, product lifecycle analysis tools, metrics for sustainable manufacturing, model-based engineering, long-term knowledge retention, simulation integration, and engineering analysis. The contact person for this division is Vijay Srinivasan, (301) 975-3508; Vijay.Srinivasan@nist.gov

Intelligent Systems Division, 735 – The primary objective is to collaborate with or conduct research consistent with NIST laboratory programs and research in Manufacturing Process and Equipment Interoperability, Industrial Control System Security, Intelligent Systems and Robotics, and Intelligent Control of Mobility Systems; Machine Tool and Machining Process Metrology; Smart Manufacturing Systems; and Sensor Networking and Integration. The contact person for this division is Albert Wavering, (301) 975-3418; albert.wavering@nist.gov.

Fire Research Grants Program

Authority: 15 U.S.C. § 278f

Program Description: *The Fire Research Grants Program* will provide funding through grants and cooperative agreements to support the conduct of research or a recipient's portion of collaborative research in areas of current interest to the Building and Fire Research Laboratory. For details on current fire research activities, please see the Engineering Laboratory web site at http://www.nist.gov/el/. Proposals in areas of research related to the National Structural Fire Resistance Laboratory (see paragraph E. below) are a program priority for the *Fire Research Grants Program*. Financial support may be provided for conferences, workshops, or other technical research meetings that are relevant to the objectives of the Fire Research Grants Program.

The program description and objectives for the *Fire Research Grants Program* are as follows:

A. Fire Measurements Group: Develops and applies measurement science to improve the understanding of fire phenomena including fire growth, fire-induced flow, heat transfer, smoke and species formation and transport, and fire suppression. The Group supports the development of innovative measurement and test methods, improved codes and standards, and fire model validation. The contact person for this group is: Jiann Yang, who can be reached at (301) 975-6662.

B. Fire Fighting Technology Group: Develops and applies measurement science to improve the understanding of the behavior, prevention, and control of fires. The Group enhances fire fighting operations, enables new technology to be integrated into fire fighting equipment, and supports fire investigations, fire reconstructions, and disaster response. The contact person for this group is: Daniel Madrzykowski, who can be reached at (301) 975-6677.

C. Materials Flammability Group: Develops and applies measurement science to further the scientific understanding of material flammability. The Group enables the development of innovative materials through improved test methods and validated models of material flammability for application in the build environment. The contact person for this group is: Rick Davis, who can be reached at (301) 975-5901.

D. Engineered Fire Safety Group: Develops and applies measurement science to support cost-effective fire protection and risk-informed life safety decisions by the design, construction, and regulatory communities. Integrates the knowledge and tools necessary to assess building performance with respect to ignition, detection, suppression, toxicity, and egress in performance-based and prescriptive regulatory regimes. The contact person for this group is Jason Averill, who can be reached at (301) 975-2585.

E. The National Structural Fire Resistance Laboratory (NSFRL) is being constructed on the NIST Gaithersburg campus. Construction is expected to be completed in the year 2012. The NSFRL represents a significant experimental capability for observing the behavior of structural connections, subassemblies, and structures under realistic fire conditions. As the Laboratory is being constructed, proposals in the following research areas could contribute to the objectives of the NSFRL and will be given special consideration: (1) measurement of structural response parameters including deformations and strains within a fire environment; and (2) development of a baseline model of the laboratory for fire/structural analysis. The contact person for this research area is Stephen Cauffman, who can be reached at (301) 975-6051.

Additional information, including a description and objectives for the *Fire Research Grants Program*, is listed at the web site: http://www.nist.gov/el/fire_grants.cfm.

Information Technology Laboratory Grants Program

Authority: 15 U.S.C. § 272(b) and (c)

Program Description: *The Information Technology Laboratory Grants Program* will provide grants and cooperative agreements in the broad areas of advanced network technologies, cloud computing, complex systems, information access, cybersecurity, health information technology, mathematical and computational sciences, pervasive information technologies, smart grid, software testing, and virtual measurements. Specific objectives of interest in these areas of research include: quantum information theory; computational materials science; network science; mathematical foundations of measurement science for information systems; mathematical knowledge management; visual data analysis; verification, validation, and uncertainty quantification for computer models; computational biology; systems biology; image analysis; semantics; software testing; software assurance for small applications; biometrics; human language technology; human factors and usability; interactive systems; multimedia technology; computer forensics; human factors/security/core requirements/testing of voting systems; information visualization; grid computing; service oriented architecture; security for the IPv6 transition from and coexistence with IPv4; post quantum public key cryptography; secure distributed computation; very efficient cryptography; leakage resistant computation for cloud computing; homomorphic encryption; mobile platform security; trusted ad hoc networks; device identity and authentication; and device mobility among heterogeneous networks. For details on these various activities, please see the Information Technology Laboratory web site at http://www.itl.nist.gov. Financial support may be provided for conferences, workshops, or other technical research meetings that are relevant to the mission of the Information Technology Laboratory.

Contact the *Information Technology Laboratory Grant Program Manager:* Kamie Roberts, (301) 975-2901, kroberts@nist.gov for clarification of the program objectives.

NIST Center for Neutron Research Grants Program

Authority: 15 U.S.C. § 272(b) and (c)

Program Description: *The NIST Center for Neutron Research (NCNR) Grants Program* will provide grants and cooperative agreements for research involving neutron scattering and the development of innovative technologies that advance the state-of-the-art in neutron research. Financial support may be provided for conferences, workshops, or other technical research meetings that are relevant to the mission of the NIST Center for Neutron Research.

All proposals submitted to the NCNR Grants Program must be in accordance with the program objectives. These are to create novel approaches to advance high resolution cold and thermal neutron scattering research; to develop new applications of neutron scattering to physics, chemistry, and macromolecular and materials research; and to support the development of innovative technologies relevant to neutron research, including, for example, high resolution two-dimensional neutron detectors, neutron monochromators, and neutron focusing and polarizing devices. Awards to universities to help to promote research by university students at the NIST/NSF Center for High Resolution Scattering are also funded under this program. Dr. Dan Neumann should be contacted for any inquiries about the objectives for this NCNR program. He can be reached at (301) 975-5252 or by e-mail at dan.neumann@nist.gov.

Center for Nanoscale Science and Technology Grants and Cooperative Agreements Program

Authority: 15 U.S.C. § 272(b) and (c) and 15 U.S.C. § 7501 *et seq*.

Program Description: *The Center for Nanoscale Science and Technology (CNST) Grants and Cooperative Agreements Program* will offer financial assistance in the field of nanotechnology specifically aimed at developing essential measurement and fabrication methods and technology in support of all phases of nanotechnology development, from discovery to production; conducting collaborative research with NIST scientists, including research at the CNST NanoFab, a national shared resource for nanofabrication and measurement; and supporting researchers visiting the CNST. Financial support may be provided for conferences, workshops, or other technical research meetings, or fellowships that are relevant to the mission of the CNST. In proposals for fellowships, applicants and team members must possess the education, experience, and training to effectively pursue and advance the proposed field of research. In addition, the applicant and team members must possess a demonstrated record of excellence in the proposed field of research. In some cases one or more scientific staff members, including undergraduate or graduate students, may be stationed at NIST in order to work in collaboration with NIST and other visiting scientists.

The primary program objectives of the financial assistance program in the CNST are to develop new measurement and fabrication methods and instrumentation for nanotechnology; and to explore a variety of new areas of nanoscale science and technology. Broad areas of interest include post-complementary metal oxide semiconductor electronics; nanofabrication and nanomanufacturing; energy transport, storage, and conversion; and bionanotechnology. Specific areas of interest include atomic-scale characterization and manipulation; scanning and transmission electron microscopy; focused ion beams; laser-atom manipulation; nanophotonic; nanoplasmonics; optical micro- and nanoelectromechanical systems (MEMS and NEMS); nanomagnetic imaging and dynamics; nanolithography; nanofabrication process development; directed self-assembly; nanoscale properties of soft matter; nanoscale stochastic processes; nanoscale control theory; nanoscale electronic and ionic transport; light-matter interaction, charge and energy transfer processes, catalytic activity, and interfacial structure in energy-related devices (including photovoltaics, thermoelectric, photoanodes, fuel cells, batteries, supercapacitors, and field emitters); nanobiosensors; nanofluidics; nanomedicine; and theory, modeling, and simulation of nanostructures. Additional objectives of this program are to assist and train CNST collaborators and NanoFab users in their research; and to conduct other outreach and educational activities that advance the development of nanotechnology by U.S. university and industrial scientists. These objectives will entail collaborative research among the selected financial assistance recipients and the CNST research staff.

Standards Services Group Grants and Cooperative Agreements Program

Authority: 15 U.S.C. § 272(b) and (c), 15 U.S.C. § 272a

Program Description: *The Standards Services Group (SSG) Grants and Cooperative Agreements Program* will provide grants and cooperative agreements in the broad areas of documentary standards and conformity assessment. Specific objectives of interest in these areas include: evaluation of the impact of documentary standards on U.S. competitiveness and innovation as well as on topics related to health, safety and the environment as well as support for specific standards related activities, including development of web-based information systems. For details on these various activities, please see the SSG web site at http://gsi.nist.gov/global/index.cfm/L1-1. Financial support may be provided for conferences, workshops, or other technical research meetings that are relevant to the mission of SSG.

Law Enforcement Standards Office Grants and Cooperative Agreements Program

Authority: 15 U.S.C. § 272(b) and (c)

Program Description: The *Law Enforcement Standards Office (OLES) Grants Program* will provide grants and cooperative agreements consistent with the OLES mission in the following broad fields of research: protective systems; detection enforcement, and inspection technologies; forensic sciences; public safety communication; and counterterrorism and response technologies. Financial support may be provided for conferences, workshops, or other technical research meetings that are relevant to the mission of the OLES.

The Law Enforcement Standards Office helps criminal justice, public safety, emergency responder, and homeland security agencies make informed procurement, deployment, applications, operating, and training decisions, primarily by developing performance standards, measurement tools, operating procedures and equipment guidelines. For details on these various activities by program area, please see the OLES web site at http://www.nist.gov/oles.

All proposals submitted to the *OLES Grants and Cooperative Agreements Program* must be in accordance with the program objectives listed below. Prospective proposers are encouraged to contact the appropriate Program Manager for each field of research to determine the responsiveness of the proposal and compliance with program objectives prior to preparation of a detailed proposal; however, written pre-proposals and white papers are not solicited and will only reviewed for informational purposes.

The program description and objectives for the *Law Enforcement Standards Office Grants and Cooperative Agreements Program* are as follows:

Counterterrorism and Response Technologies (CART) Program: CART's mission is to address the equipment needs of law enforcement, firefighters, and EMS through standards focused research and development projects based on chemical, biological, radiological, nuclear and explosive (CBRNE) and security requirements. Specific objectives of interest include: innovative responder requirement collection using tools such as social media; CBRNE countermeasures including novel detection technologies, personal and vehicle protection, training, decontamination, defeat and tactics; responder vehicle security and safety; transit security; and interoperable integration of surveillance, intelligence, access controls, CBRNE sensors, and other security devices.

Detection, Enforcement, and Inspection (DEI) Program: DEI has several major thrust areas that include 1) advancement and development of technology and performance standards for detecting, locating, and imaging weapons and contraband concealed on people; 2) development of performance standards for imaging technologies used in surveillance, tracking, and security applications; 3) development of performance standards for traffic enforcement technologies; 4) advancement and development of technology and performance standards for detecting, tracking, and imaging through optically-opaque barriers; 5) development of systems to measure the performance and function of less-lethal and conventional weapons; and 6) advancement of the measurement science of biometric recognition technology.

Forensic Sciences Program: The Forensic Science Program (FSP) conducts and coordinates research and provides technical services to address the needs of the forensic science community. The FSP focuses on creating new material standards; initiating research to verify methodology; evaluating new technologies; and establishing expert technical working groups to facilitate knowledge exchange and identify best practices primarily for the following forensic science disciplines: computer and digital forensics; DNA; impression and pattern evidence, such as fingerprints and toolmarks; controlled and dangerous substances; and trace analysis.

Protective Systems Research Program: The Protective Systems Research (PSR) program conducts and coordinates research and provides technical services to address standards needs for protective equipment used by law enforcement and corrections officers. The PSR program recognizes that improvements made to standards and test methods often emerge from applied research. Specific objectives of interest include: the development of new test methods to assess the effectiveness of body armor in reducing blunt trauma, the evaluation of alternative test surrogates for use in body armor testing, the development of new methods for measuring the permeation of moisture through textile materials, and the development of models to describe armor performance. Additional, more general areas of interest include the development of biofidelic models to relate behind armor blunt trauma to injury criteria in humans, advances in high strength fibers used in body armor, research into new technologies to reduce the weight of armor without affecting its protection, and improvements in test methods for assessing stab-resistant body armor and ballistic helmets.

Public Safety Communication Research Program: The Public Safety Communications Research (PSCR) program provides research, development, testing, and evaluation to foster nationwide communications interoperability. Drawing on critical requirements provided by public safety practitioners, the PSCR program provides insight to wireline and wireless standards committees developing standards for voice, data, image, and video communications. Specific areas of interest include: land mobile radio technology, broadband technology, interim interoperability devices, emerging public safety communications technologies, and requirements and architecture frameworks.

b. Award Information:

The funding instruments used in these programs will be grants and cooperative agreements, as appropriate. Where cooperative agreements are used, the nature of NIST's "substantial involvement" will generally be collaboration with the recipient by working jointly with a recipient scientist in carrying out the scope of work, or specifying direction or redirection of the scope of work due to inter-relationships with other projects requiring such cooperation.

When a proposal for a multi-year award is approved, funding will generally be provided for only the first year of the program. If an application is selected for funding, NIST has no obligation to provide any additional funding in connection with that award. Continuation of an award to increase funding or extend the period of performance is at the total discretion

of NIST. Funding for each subsequent year of a multi-year proposal will be contingent upon satisfactory progress, continued relevance to the mission of the individual MSE Grants Program, and the availability of funds. The multi-year awards must have scopes of work that can be easily separated into annual increments of meaningful work that represent solid accomplishments if prospective funding is not made available to the applicant (i.e., the scopes of work for each funding period must produce identifiable and meaningful results in and of themselves).

Material Measurement Laboratory (MML) Grants Program

For the *MML Grants Program*, proposals will be considered for research projects from one to five years, consistent with the multi-year funding policies described at the beginning of the "Award Information" section of this notice.

The MML Grants Program is a new grant program. For FY 2011, individual awards are expected to range between $10,000 and $500,000.

No funds have been set aside specifically for the MML *Grants Program*. The availability of funds depends upon actual authorization of funds and other costs expected to be incurred by individual divisions within the laboratory. Where funds are identified as available for grants, those funds will be awarded to highly ranked proposals as determined by the process described in this notice.

Physical Measurement Laboratory (PML) Grants Program

For the *PML Grants Program*, proposals will be considered for research projects from one to five years, consistent with the multi-year funding policies described at the beginning of the "Award Information" section of this Notice.

The *PML Grants Program* is a new grant program. For FY 2011, individual awards are expected to range between $5,000 and $250,000.

No funds have been set aside specifically for the *PML Grants Program.* The availability of funds depends upon actual authorization of funds and other costs expected to be incurred by individual divisions within the laboratory. Where funds are identified as available for grants or cooperative agreements, those funds will be awarded to highly ranked proposals as determined by the process described in this notice.

Engineering Laboratory (EL) Grants Program

For the *EL Grants Program*, proposals will be considered for research projects from one to five years. No funds have been set aside specifically for the *EL Grants Program*. When a proposal for a multi-year award is approved, funding will generally be provided for only the first year of the program. If an application is selected for funding, NIST has no obligation to provide any additional funding in connection with the award. Continuation of an award to increase funding or extend the period of performance is at the total discretion of NIST. Funding for each subsequent year of a multi-year proposal will be contingent upon satisfactory progress, continued relevance to the mission of the *EL Grants Program*, and the availability of funds. Multi-year awards must have scopes of work that can be easily separated into annual increments of meaningful work that represent solid accomplishments if prospective funding is not made available to the applicant, (i.e., the scopes of work for each funding period must produce identifiable and meaningful results in and of themselves).

The amount available each year fluctuates considerably based on programmatic needs. In fiscal year 2011, individual awards are expected to range from approximately $5,000 to $500,000. The amount available each year fluctuates considerably based on programmatic needs and the availability of funds.

Fire Research Grants Program

For the *Fire Research Grants Program*, proposals will be considered for research projects from one to three years, consistent with the multi-year funding policies described at the beginning of the "Award Information" section of this Notice.

For the *Fire Research Grants Program*, the annual budget is approximately $1.0 to $1.5 million. Because of commitments for the support of multi-year projects and because proposals may have been deferred from the previous year's competition, only a portion of the budget is available to fund applications received in response to this notice. For FY 2011 most grants and cooperative agreements are in the $25,000 to $100,000 per year range, with a maximum requested duration of three years. In fiscal year 2010, the *Fire Research Grants Program* funded 5 new awards totaling $434,660.

Information Technology Laboratory Grants Program

For the *Information Technology Laboratory Grants Program*, proposals will be considered for research projects from one to five years, consistent with the multi-year funding policies described at the beginning of the "Award Information" section of this Notice.

In fiscal year 2010, the *Information Technology Laboratory* funded 25 new awards, totaling $3.9M. No funds have been set aside specifically for the *Information Technology Laboratory Grants Program.* The availability of funds depends upon actual authorization of funds and other costs expected to be incurred by the individual divisions. The amount available each year fluctuates considerably based on programmatic needs. For FY 2011 individual awards are expected to range between $10,000 and $500,000.

NIST Center for Neutron Research (NCNR) Grants Program

The *NCNR Grants Program* will consider proposals lasting from one to five years, consistent with the multi-year funding policies described at the beginning of the "Award Information" section of this Notice.

In fiscal year 2010, the *NCNR Grants Program* made four awards in the amount of $177,900. In fiscal year 2011, the Program anticipates funding of approximately $300,000, including new awards and continuing projects. For FY 2011 individual awards are expected to range from approximately $25,000 to $100,000 per year.

Center for Nanoscale and Science and Technology (CNST) Grants and Cooperative Agreements Program

For the *CNST Grants and Cooperative Agreements Program,* proposals will be considered for research projects from one to five years, consistent with the multi-year funding policies described at the beginning of the "Award Information" section of this Notice.

In fiscal year 2010, the *CNST Grants and Cooperative Agreements Program* made 5 new awards. In fiscal year 2011, the CNST Grants Program anticipates funding of approximately $3,000,000, which includes both new awards and additional funding for multi-year grants awarded in prior years. For FY 2011 individual awards are expected to range from approximately $15,000 to 100,000 per year.

Standards Services Group Grants and Cooperative Agreements Program

For the *Standards Services Group Grants and Cooperative Agreements Program*, proposals will be considered for research projects with duration of one to three years, consistent with the multi-year funding policies described at the beginning of the "Award Information" section of this Notice.

No funds have been set aside specifically for the *Standards Services Group Grants and Cooperative Agreements Program.* The availability of funds depends upon actual authorization of funds and other costs expected to be incurred by the SSG. The amount available each year fluctuates considerably based on programmatic needs. For FY 2011 individual awards are expected to range between $5,000 and $25,000.

Law Enforcement Standards Office Grants and Cooperative Agreements Program

For the *OLES Grants and Cooperative Agreements Program*, proposals will be considered for research projects from one to five years, consistent with the multi-year funding policies described at the beginning of the "Award Information" section of this notice. The *OLES Grants and Cooperative Agreements Program* is a new grant program. For FY 2011, individual awards are expected to range between $5,000 and $250,000.

No funds have been set aside specifically for the *OLES Grants and Cooperative Agreements Program*. The availability of funds depends upon actual authorization of funds and other costs expected to be incurred by individual programs within the laboratory. Where funds are identified as available for grants, those funds will be awarded to highly ranked proposals as determined by the process described in this notice.

c. Eligibility Information

All programs listed in this funding opportunity notice are open to institutions of higher education; hospitals; non-profit organizations; commercial organizations; state, local, and Indian tribal governments; foreign governments; organizations

under the jurisdiction of foreign governments; and international organizations.

Cost Sharing or Matching: There is no cost sharing or matching requirement for the programs listed in this funding opportunity notice.

d. Application and Submission Information

Address to Request Application Package: Complete application packages may be obtained by contacting the below named offices and personnel.

Material Measurement Laboratory Grants Program

Paper applications must be submitted to: Ms. Donna Kimball, Material Measurement Laboratory, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8300, Gaithersburg, MD 20899-8300.

Physical Measurement Laboratory Grants Program

Paper applications must be submitted to: Ms. Sheilda Bryner, Physical Measurement Laboratory, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8100, Gaithersburg, MD 20899-8100.

Engineering Laboratory Grants Program

Paper applications must be submitted to: Karen Perry, Engineering Laboratory, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8602, Gaithersburg, MD 20899-8602.

Fire Research Grants Program

Paper applications must be submitted to: Ms. Wanda Duffin-Ricks, Engineering Laboratory (EL), National Institute of Standards and Technology, 100 Bureau Drive, Stop 8660, Gaithersburg, Maryland 20899-8660.

Information Technology Laboratory Grants Program

Paper applications must be submitted to: Gerlinde Harr, Information Technology Laboratory, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8900, Gaithersburg, Maryland 20899-8900.

NIST Center for Neutron Research Grants Program

Paper applications must be submitted to: Ms. Tanya Burke, NIST Center for Neutron Research, National Institute of Standards and Technology, 100 Bureau Drive, Stop 6100, Gaithersburg, Maryland 20899-6100.

Center for Nanoscale and Science and Technology Grants and Cooperative Agreements Program

Paper applications must be submitted to: Donna Lauren, Center for Nanoscale Science and Technology, National Institute of Standards and Technology, 100 Bureau Drive, Stop 6200, Gaithersburg, Maryland 20899-6200.

Standards Services Group Grants and Cooperative Agreements Program

Paper applications must be submitted to: Kerry Miles, National Institute of Standards and Technology, 100 Bureau Drive, Stop 2150, Gaithersburg, MD 20899-2000.

Law Enforcement Standards Office Grants and Cooperative Agreements Program

Paper applications must be submitted to: Mrs. Sharon Ellison, Law Enforcement Standards Office, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8102, Gaithersburg, MD 20899-8102.

The following **applies to ALL programs** listed in this funding opportunity notice:

For electronic submission - Applicants should follow the Application Instructions provided at Grants.gov when submitting a response to this funding opportunity. Applicants are encouraged to start early and not wait to the approaching due date

before logging on and reviewing the instructions for submitting an application through Grants.gov.

2. Content and Form of Application Submission:

The following instructions **apply to ALL programs** listed in this funding opportunity notice.

Applicants should download and complete the package that is provided with this Federal Funding Opportunity notice.

Complete applications/proposals must include the following forms and documents:

- SF-424, Application for Federal Assistance
- SF-424A, Budget Information Non-Constructions
- SF-424B, Assurances Non-Construction
- CD-511, Certification Regarding Lobbying
- SF-LLL, Disclosure of Lobbying Activities (IF APPLICABLE)
- Technical Proposal responsive to program description(s)
- Budget Narrative

The following forms are available as part of the Grants.gov application kit and can be completed through the download application process:

SF-424, Applications for Federal Assistance
SF-424A, Budget Information Non-Construction Programs
SF-424B, Assurances Non-Construction Programs
SF-LLL, Disclosure of Lobbying Activities
CD-511, Certification Regarding Lobbying

The list of certifications and assurances referenced in item 21 of the SF-424 is contained in the SF-424B.

Proposals that are submitted without a Technical Proposal and/or a Budget Narrative will be rejected. There is no set format for the Technical Proposal and the Budget Narrative, other than that they are word-processed documents written by the applicant. The Technical Proposal should describe in depth the scope of the proposal, its goals, the methods and equipment to be used, its schedule, the personnel working on the project and their qualifications, and the institutional capabilities of the applicant. The Budget Narrative should detail the funds requested, their purposes, and the timetable for using the funds.

The applicant is responsible for ensuring that the application, whether submitted via Grants.gov or otherwise, is complete and that it conforms to the requirements of this notice.

In order for an application to be considered complete it must meet all the application documentation requirements stated in the Federal Funding Opportunity notice.

IN AN EFFORT TO ROUTE THE APPLICATION TO THE APPROPRIATE PROGRAM OFFICIALS, APPLICANTS SHOULD INCLUDE ON THE COVER PAGE OF THE TECHNICAL PROPOSAL THE NAME OF THE GRANT AND/OR COOPERATIVE AGREEMENT PROGRAM AGAINST WHICH THEY ARE APPLYING. THE CHOICES ARE:

(1) Material Measurement Laboratory (MML) Grants Program;
(2) Physical Measurement Laboratory (PML) Grants Program;
(3) Engineering Laboratory (EL) Grants Program;
(4) Fire Research Grants Program;
(5) Information Technology Laboratory Program (ITL);
(6) NIST Center for Neutron Research (NCNR) Grants Program;
(7) Center for Nanoscale Science and Technology (CNST) Grants and Cooperative Agreements Program;
(8) Standards Services Group (SSG) Grants and Cooperative Agreements Program; and
(9) Law Enforcement Standards Office (OLES) Grants and Cooperative Agreements Program.

Applicants may choose to scan or create the necessary documents and then attach them to the application in Grants.gov by clicking on the Add Attachments rectangle in field 15 of SF-424. Applicants should carefully follow specific Grants.gov instructions to ensure the attachments will be accepted by the Grants.gov system. A receipt from Grants.gov indicating a proposal is received does not provide information about whether attachments have been received.

If you choose to apply via Grants.gov all requirements of the application must be included.

For further information or questions regarding applying electronically for the 2011-MSE-01 announcement please contact Christopher Hunton at 301-975-5718 or christopher.hunton@nist.gov.

Applicants are strongly encouraged to start early and not to wait to the approaching due date before logging on and reviewing the instructions for submitting an application through Grants.gov. The Grants.gov registration process must be completed before a new registrant can apply electronically. If all goes well, the registration process takes from 3 to 5 business days. If problems are encountered, the registration process can take up to 2 weeks or more. Applicants must have a Dun and Bradstreet Data Universal Numbering System (DUNS) number and must be registered with the Federal Central Contractor Registry and with a Credential Provider, as explained on the Grants.gov web site. After registering, it may take several days or longer from the initial log-on before a new Grants.gov system user can submit an application. Only authorized individual(s) will be able to submit the application, and the system may need time to process a submitted application. Applicants should save and print the proof of submission they receive from Grants.gov. If problems occur while using Grants.gov, the applicant is advised to (a) print any error message received, and (b) call Grants.gov directly at 800-518-4726 for immediate assistance. Assistance from the Grants.gov Help Desk will be available around the clock every day, with the exception of Federal holidays. Help Desk service will resume at 7:00 a.m. Eastern Time the day after Federal holidays. For assistance with using the Grants.gov, you may also contact support@grants.gov.

3. Submission Dates and Times:

For all NIST Measurement Science and Engineering (MSE) Research Grants and Cooperative Agreements Programs except the Fire Research Grants Program, applications will be considered on a continuing basis. Applications received after June 1, 2011 may be processed and considered for funding under this solicitation in the current fiscal year or in the next fiscal year, subject to the availability of funds. All applications, paper and electronic, must be received prior to the announcement on Grants.gov of the FY 2012 solicitation for the NIST MSE Grants Program in order to be processed under this solicitation.

For the Fire Research Grants Program, applications received after January 30, 2011 may be processed and considered for funding under this solicitation in the current fiscal year or in the next fiscal year, subject to the availability of funds.

4. Intergovernmental Review: Executive Order 12372: Applications under this program are not subject to Executive Order 12372, ``Intergovernmental Review of Federal Programs."

5. Funding Restrictions: Not applicable.

6. Other Submission Requirements: None

e. Application Review Information

1. Criteria:

Material Measurement Laboratory Grants Program

For the *Material Measurement Laboratory Grants Program*, the evaluation criteria the technical reviewers will use in evaluating the proposals are as follows:

1. Rationality. Reviewers will consider the coherence of the applicant's approach and the extent to which the proposal effectively addresses scientific and technical issues.

2. Qualifications of Technical Personnel. Reviewers will consider the professional accomplishments, skills, and training of the proposed personnel to perform the work in the project.

3. Resources Availability. Reviewers will consider the extent to which the proposer has access to the necessary facilities and overall support to accomplish project objectives.

4. Technical Merit of Contribution. Reviewers will consider the potential technical effectiveness of the proposal and the value it would contribute to the field of measurement science and engineering, especially as it pertains to reference methods, reference materials and reference data in Material Measurements.

Physical Measurement Laboratory Grants Program

For the *Physical Measurement Laboratory Grants Program*, the evaluation criteria the technical reviewers will use in evaluating the proposals are as follows (except for proposals to the Weights and Measures Division):

1. Rationality. Reviewers will consider the coherence of the applicant's approach and the extent to which the proposal effectively addresses scientific and technical issues that are relevant to PML programs.

2. Qualifications of Technical Personnel. Reviewers will consider the professional accomplishments, skills, and training of the proposed personnel to perform the work in the project.

3. Resources Availability. Reviewers will consider the extent to which the proposer has access to the necessary facilities and overall support to accomplish project objectives.

4. Technical Merit of Contribution. Reviewers will consider the potential technical effectiveness of the proposal and the value it would contribute to the field of measurement science. Proposals must be relevant to current PML research programs and have a relation to the objectives of ongoing PML programs and activities.

Each of these factors will be given equal weight in the evaluation process.

For proposals submitted to the Weights and Measures Division, the technical reviewers will score proposals based on the following criteria and weights:

1. Technical Quality of the Research. Reviewers will assess the rationality, innovation and imagination of the proposal and the fit to NIST's documentary standards and legal metrology programs. (0 – 35 points)

2. Potential Impact of the Results. Reviewers will assess the potential impact and the technical application of the results to NIST's in-house programs and the documentary standards and legal metrology communities. (0 – 25 points)

3. Staff and Institution Capability to do the Work. Reviewers will evaluate the quality of the facilities and experience of the staff to assess the likelihood of achieving the objective of the proposal. (0 – 20 points)

4. Match of budget to proposed work. Reviewers will assess the budget against the proposed work to ascertain the reasonableness of the request. (0 – 20 points)

Engineering Laboratory Grants Program

For the *Engineering Laboratory Grants Program*, the technical evaluation criteria are as follows:

1. Technical quality of the research. Reviewers will assess the rationality, innovation and imagination of the proposal, and the fit to NIST's in-house Engineering Laboratory programs. (0 – 35 points);

2. Potential impact of the results. Reviewers will assess the potential impact and the likelihood of the technical application of the results. (0 – 25 points);

3. Staff and institution capability to do the work. Reviewers will evaluate the quality of the facilities and experience of the staff to assess the likelihood of achieving the objective of the proposal. (0 – 20 points);

4. Match of budget to proposed work. Reviewers will assess the budget against the proposed work to ascertain the reasonableness of the request. (0 – 20 points).

Fire Research Grants Program

For the *Fire Research Grants Program*, the technical evaluation criteria are as follows:

1. Technical quality of the research. Reviewers will assess the clarity, rationality, organization and innovation of

the proposed work. (0 - 40 points);

2. Potential impact of the results. Reviewers will assess the potential impact and the likelihood of the technical application of the results to address aspects of the national fire problem. (0 - 40 points);

3. Staff and institution capability to do the work. Reviewers will evaluate the quality of the facilities and experience of the staff to assess the likelihood of achieving the objective of the proposal. (0 - 10 points);

4. Match of budget to proposed work. Reviewers will assess the budget against the proposed work to ascertain the reasonableness of the request. (0 - 10 points).

Information Technology Laboratory Grants Program

For the *ITL Grants Program*, the evaluation criteria the technical reviewers will use in evaluating the proposals are as follows:

1. Rationality. Reviewers will consider the coherence of the applicant's approach and the extent to which the proposal effectively addresses scientific and technical issues.

2. Technical Merit of Contribution. Reviewers will consider the potential technical effectiveness of the proposal and the value it would contribute to the field of information technology research.

3. Qualifications of Technical Personnel. Reviewers will consider the professional accomplishments, skills, and training of the proposed personnel to perform the work in the project.

4. Resources Availability. Reviewers will consider the extent to which the proposer has access to the necessary facilities and overall support to accomplish project objectives.

Each of these factors will be given equal weight in the evaluation process.

NIST Center for Neutron Research Grants Program

The *NCNR Grants Program* evaluation criteria that the technical reviewers will use in evaluating the proposals are as follows:

1. Rationality. Reviewers will assess the innovation, rationality, and coherence of the applicant's approach and the extent to which the proposal effectively addresses important scientific and technical issues using neutron methods and/or the development of innovative devices for neutron research. (0 to 35 points)

2. Qualifications of Technical Personnel. Reviewers will consider the professional accomplishments, skills, and training of the proposed personnel to perform the work in the project. (0 to 20 points)

3. Resources. Reviewers will consider the extent to which the proposer has access to the necessary resources, facilities, and overall support to accomplish project objectives, and will assess the budget against the proposed work to ascertain the reasonableness of the request. (0 to 20 points)

4. Technical Merit of Contribution. Reviewers will consider the potential technical effectiveness of the proposal and the value it would contribute to neutron research. (0 to 25 points)

Center for Nanoscale Science and Technology (CNST) Grants and Cooperative Agreements Program

For the *Center for Nanoscale Science and Technology (CNST) Grants and Cooperative Agreements Program*, the technical reviewers will use the following evaluation criteria in evaluating the proposals:

1. Rationality. Reviewers will consider the coherence of the applicant's approach and the extent to which the proposal effectively addresses scientific and technical issues.

2. Qualifications of Technical Personnel. Reviewers will consider the professional accomplishments, skills, and training of the proposed personnel to perform the work in this project.

3. Resources Availability. Reviewers will consider the extent to which the proposer has access to the necessary facilities and overall support to accomplish project objectives.

4. Technical Merit of Contribution. Reviewers will consider the potential technical effectiveness of the proposal and the value it would contribute to the field of nanotechnology.

All factors will be weighted equally.

Standards Services Group Grants and Cooperative Agreements Program

For the *Standards Services Group Grants and Cooperative Agreements Program*, the technical reviewers will score proposals based on the following criteria and weights:

1. Technical quality of the research. Reviewers will assess the rationality, innovation and imagination of the proposal and the fit to NIST's documentary standards and legal metrology programs. (0 – 35 points);

2. Potential impact of the results. Reviewers will assess the potential impact and the technical application of the results to NIST's in-house programs and the documentary standards and legal metrology communities. (0 – 25 points);

3. Staff and institution capability to do the work. Reviewers will evaluate the quality of the facilities and experience of the staff to assess the likelihood of achieving the objective of the proposal. (0 – 20 points);

4. Match of budget to proposed work. Reviewers will assess the budget against the proposed work to ascertain the reasonableness of the request. (0 – 20 points).

Law Enforcement Standards Office Grants and Cooperative Agreements Program

For the *Law Enforcement Standards Office Grants and Cooperative Agreements Program*, the evaluation criteria the technical reviewers will use in evaluating the proposals are as follows:

1. Rationality. Reviewers will consider the coherence of the applicant's approach and the extent to which the proposal effectively addresses scientific and technical issues.

2. Technical Merit of Contribution. Reviewers will consider the potential technical effectiveness of the proposal. Proposals must be relevant to current OLES research objectives..

3. Qualifications of Technical Personnel. Reviewers will consider the professional accomplishments, skills, and training of the proposed personnel to perform the work in the project.

4. Resources Availability. Reviewers will consider the extent to which the proposer has access to the necessary facilities and overall support to accomplish project objectives.

Each of these factors will be given equal weight in the evaluation process.

2. Review and Selection Process:

Material Measurement Laboratory Grants Program

For the *Material Measurement Laboratory Grants Program*, proposals will be reviewed in a three-step process. First, the MML Grants Coordinator, the Deputy Director of MML, or the corresponding MML Division Chief, will determine the compatibility of the applicant's proposal with MML Program Areas and the relevance to the objectives of the *Material Measurement Laboratory Grants Program*, described in the Program Description section above. If it is determined that the proposal is incomplete or nonresponsive to the scope of the stated objectives, the proposal will not be reviewed for technical merit. One copy of any such proposal will be retained for record keeping purposes for three years and all remaining copies will be destroyed.

Second, at least three independent, objective individuals knowledgeable about the particular measurement science area addressed by the proposal will conduct a technical review based on the evaluation criteria. Proposals are received and will be reviewed on a rolling basis based on the evaluation criteria subject to the availability of funds, and all responsive, complete proposals received, reviewed, will be ranked based on the reviewers' scores. If non-Federal reviewers are used, the reviewers may discuss the proposals with each other, but scores will be determined on an individual basis, not as a consensus.

Third, the Division Chief or the MML Deputy Director, generally after collaboration, will make application selections, taking into consideration the results of the reviewers' evaluations, the availability of funds, and relevance to the objectives described in the Program Description section above.

The final approval of selected applications and award of financial assistance will be made by the NIST Grants Officer based on compliance with application requirements as published in this notice, compliance with applicable legal and regulatory requirements, whether the application furthers the objectives of the Department of Commerce, and whether the recommended applicants appear to be responsible. Applicants may be asked to modify objectives, work plans, or budgets and provide supplemental information required by the agency prior to award. The decisions of the Grants Officer are final.

Unsuccessful applicants will be notified in writing. The Program will retain one copy of each unsuccessful application for three years for record keeping purposes. The remaining copies will be destroyed.

Physical Measurement Laboratory Grants Program

For the *Physical Measurement Laboratory Grants Program*, responsive proposals will be assigned, as received, to the most appropriate area for review, and will be reviewed in a three-step process.

First, the PML Grants Coordinator, a PML Deputy Director, or an appropriate PML Division Chief will determine the compatibility of the applicant's proposal with the PML program areas and the relevance to the objectives of the *PML Grants Program*, described in the Program Description section above. If a preliminary review determines that the proposal is incomplete or non-responsive to the scope of the stated objectives, the proposal will not be reviewed for technical merit. If it is determined that sufficient funding is not available to consider grant and cooperative agreement proposals in the technical area of the proposal, the proposal will not be reviewed for technical merit. One copy of any such proposal will be retained for record keeping purposes for three years and all remaining copies will be destroyed. All applications that are complete and responsive to the solicitation will be reviewed for technical merit. PML will notify proposers in writing if their proposals are not reviewed for technical merit.

Second, at least three independent, objective individuals knowledgeable about the particular scientific area described in the proposal will conduct a technical review of each proposal, based on the evaluation criteria listed in the Evaluation Criteria section above. If non-Federal reviewers are used, reviewers may discuss the proposals with each other, but scores will be determined on an individual basis, not as a consensus. Reviews will be conducted on a monthly basis within each division of the Physical Measurement Laboratory, and all proposals received during the month will be ranked based on the reviewers' scores.

Third, a PML Deputy Director or the appropriate PML Division Chief will make final application selections, taking into consideration the results of the reviewers' evaluations, including rank; relevance to the objectives described in the Program Description section above ; and the availability of funds. All, some, or none of the ranked proposals may be selected. The final approval of selected applications and award of financial assistance will be made by the NIST Grants Officer based on compliance with application requirements as published in this notice, compliance with applicable legal and regulatory requirements, and whether the recommended applicants appear to be responsible. Applicants may be asked to modify objectives, work plans, or budgets and provide supplemental information required by the agency prior to award. The decisions of the Grants Officer are final.

Unsuccessful applicants will be notified in writing. The Program will retain one copy of each unsuccessful application for three years for record keeping purposes. The remaining copies will be destroyed.

Engineering Laboratory Grants Program

For the *Engineering Laboratory Grants and Cooperative Agreements Program* proposals will be reviewed in a three-step process. If a preliminary review determines that the proposal is incomplete or non-responsive to the scope of the stated objectives, the proposal will not be reviewed for technical merit. One copy of any such proposal will be retained for record

keeping purposes for three years and all remaining copies will be destroyed. Subject to the availability of funds – as determined by the Engineering Laboratory Division Chief or Laboratory Director or Deputy Director, all applications that are complete and responsive to the solicitation will be reviewed for technical merit. If it is determined that sufficient funding is not available to consider grant and cooperative agreement proposals in the technical area of the proposal, the proposal will not be reviewed for technical merit. The proposer will be promptly notified of the unavailability of funds for their proposal. One copy of any such proposal will be retained for record keeping purposes for three years and all remaining copies will be destroyed. If sufficient funds are available, at least three independent, objective individuals knowledgeable in the particular scientific area addressed by the proposal will conduct a technical review. Proposals are received and will be reviewed on a rolling basis based on the evaluation criteria listed in the Evaluation Criteria section above. If non-federal reviewers are used, the reviewers may discuss the proposals with each other, but scores will be determined on an individual basis, not as a consensus. Second, the Division Chief or Laboratory Director or Deputy Directors will take into consideration the results of the reviewers' evaluation, the availability of funds, and relevance to the objectives described in the Program Description section of this FFO.

The final approval of selected applications and award of financial assistance will be made by the NIST Grants Officer based on compliance with application requirements as published in this notice, compliance with applicable legal and regulatory requirements, and whether the recommended applicants appear to be responsible. Applicants may be asked to modify objectives, work plans, or budgets and provide supplemental information required by the agency prior to award. The award decision of the Grants Officer is final. Applicants should allow up to 90 days processing time.

Fire Research Grants Program

Prospective proposers are encouraged to contact the group leaders listed in the Program Description section of this FFO announcement to determine the responsiveness of the proposal and compliance with program objectives prior to preparation of a detailed proposal; however, written pre-proposals and white papers are not solicited and will not be reviewed for other than informational purposes. Responsive proposals will be assigned to the most appropriate group and reviewed as received on a rolling basis. If it is determined that the proposal is incomplete or nonresponsive to the scope of the stated objectives, the proposal will not be reviewed for technical merit. One copy of any such proposal will be retained for record keeping purposes for three years and all remaining copies will be destroyed. Proposals are evaluated for technical merit based on the evaluation criteria described above by at least three reviewers chosen from NIST professionals, technical experts from other interested government agencies, and experts from the fire research community at large. When non-Federal reviewers are used, reviewers may discuss the proposals with each other, but scores will be determined on an individual basis, not as a consensus.

A Review Panel, consisting of staff with appropriate technical expertise, Group Leaders and the Deputy Division Chief, will make funding recommendations to the Selecting Official, who may be the Fire Research Division Chief, the Deputy Director for Building and Fire Research, or the Director of the Engineering Laboratory. In making recommendations for application selections, the Review Panel and the Selecting Official will consider the results of the reviewers' evaluations, the scores of the reviewers, the availability of funds, program balance, and the relevance to the objectives of the *Fire Research Grants Program*, as described in the Program Description section above and at the Engineering Laboratory web site at http://www.nist.gov/el/.

The final approval of selected applications and award of financial assistance will be made by the NIST Grants Officer based on compliance with application requirements as published in this notice, compliance with applicable legal and regulatory requirements, and whether the recommended applicants appear to be responsible. Applicants may be asked to modify objectives, work plans, or budgets and provide supplemental information required by the agency prior to award. The award decision of the Grants Officer is final. Applicants should allow up to 90 days processing time.

Proposals submitted to another agency will be considered for possible joint funding if approved by the other agency.

Initial review of the proposal will consider completeness and responsiveness of the proposal to the program requirements. Proposals on product development and commercialization are not considered responsive to this solicitation.

Unsuccessful applicants will be notified in writing. The Program will retain one copy of each unsuccessful application for three years for record keeping purposes. The remaining copies will be destroyed.

Information Technology Laboratory Grants Program

For the *ITL Grants Program*, proposals will be reviewed in a three-step process. First, the ITL Grants Coordinator, the

Deputy Director of ITL, or the corresponding Division Chief will determine the compatibility of the applicant's proposal with ITL program areas and the relevance to the objectives of the *Information Technology Laboratory Grants Program*, described in the Program Description section above. If a proposal is determined to be incomplete or non-responsive, or if it is determined that all available funds have been exhausted, the proposal will not be reviewed for technical merit. One copy of any such proposal will be retained for record keeping purposes for three years and all remaining copies will be destroyed. Proposers may contact ITL at 301-975-2901 to find out if funds have been exhausted for the fiscal year. ITL will also post a notice on its web site, www.itl.nist.gov, when funds are exhausted for the fiscal year. ITL will notify proposers in writing if their proposals are not reviewed for technical merit.

Second, at least three independent, objective individuals knowledgeable about the particular measurement science area addressed by the proposal will conduct a technical review based on the published evaluation criteria. Reviews will be conducted on a rolling basis as proposals are received. If non-Federal reviewers are used, the reviewers may discuss the proposals with each other, but scores will be determined on an individual basis, not as a consensus.

Third, the Division Chief, in concurrence with the Director of ITL, will make application selections, taking into consideration the results of the reviewers' evaluations, the availability of funds, and relevance to the objectives described in the Program Description section above.

The final approval of selected applications and award of financial assistance will be made by the NIST Grants Officer based on compliance with application requirements as published in this notice, compliance with applicable legal and regulatory requirements, and whether the recommended applicants appear to be responsible. Applicants may be asked to modify objectives, work plans, or budgets and provide supplemental information required by the agency prior to award. The decisions of the Grants Officer are final.

Unsuccessful applicants will be notified in writing. The Program will retain one copy of each unsuccessful application for three years for record keeping purposes. The remaining copies will be destroyed.

NIST Center for Neutron Research Grants Program

Proposals submitted to the *NCNR Grants Program* will be reviewed in a two-step process. If a preliminary review determines that the proposal is incomplete or non-responsive to the scope of the stated objectives, the proposal will not be reviewed for technical merit. One copy of any such proposal will be retained for record keeping purposes for three years and all remaining copies will be destroyed. All applications that are complete and responsive to the solicitation will be reviewed for technical merit.

First, at least three independent, objective individuals knowledgeable about the particular scientific area described in the Program Description section above that the proposal addresses will conduct a technical review of proposals, as they are received on a rolling basis, based on the evaluation criteria. If non-Federal reviewers are used, the reviewers may discuss the proposals with each other, but scores will be determined on an individual basis, not as a consensus. Second, the Center Director will make application selections. In making application selections, the Center Director will take into consideration the results of the reviewers' evaluations, the availability of funds, and relevance to the objectives of the *NCNR Grants Program*, described above in the Program Description section. The final approval of selected applications and award of financial assistance will be made by the NIST Grants Officer based on compliance with application requirements as published in this notice, compliance with applicable legal and regulatory requirements, and whether the recommended applicants appear to be responsible. Applicants may be asked to modify objectives, work plans, or budgets, and provide supplemental information required by the agency prior to award. The decision of the Grants Officer is final.

Unsuccessful applicants will be notified in writing. The Program will retain one copy of each unsuccessful application for three years for record keeping purposes. The remaining copies will be destroyed.

Center for Nanoscale Science and Technology Grants and Cooperative Agreements Program

For the *Center for Nanoscale Science and Technology (CNST) Grants and Cooperative Agreements Program*, responsive proposals will be assigned, as received on a rolling basis, to the most appropriate area for review. Proposals will be reviewed on a rolling basis in a two-step process. First, the CNST Deputy Director will determine the applicability of the proposal with regard to CNST programs and the relevance of the proposal's objectives to current CNST research. If it is determined that the proposal is incomplete or nonresponsive to the scope of the stated objectives, the proposal will not be reviewed for technical merit. One copy of any such proposal will be retained for record keeping purposes for three years and all remaining copies will be destroyed. CNST will notify proposers in writing if their proposals are not reviewed for

technical merit. Second, if the proposal passes the first step, at least three independent, objective individuals knowledgeable about the particular scientific area addressed by the proposal will conduct a technical review based on the evaluation criteria. If non-Federal reviewers are used, the reviewers may discuss the proposal with each other, but scores will be determined on an individual basis, not as a consensus.

The CNST Director will make application selections from the grants and cooperative agreement proposals submitted. In making the application selections, the CNST Director will take into consideration the results of the reviewers' evaluations, the availability of funds, and relevance to the objectives of the *CNST Grants and Cooperative Agreements Program*. These objectives are described above in the Program Description section.

The final approval of selected applications and award of financial assistance will be made by the NIST Grants Officer based on compliance with application requirements as published in this notice, compliance with applicable legal and regulatory requirements, and whether the recommended applicants appear to be responsible. Applicants may be asked to modify objectives, work plans, or budgets and provide supplemental information required by the agency prior to award. The decision of the Grants Officer is final.

Unsuccessful applicants will be notified in writing. The Program will retain one copy of each unsuccessful application for three years for record keeping purposes. The remaining copies will be destroyed.

Standards Services Group Grants and Cooperative Agreements Program

For the *Standards Services Group Grants and Cooperative Agreements Program* proposals will be reviewed in a two-step process. If a preliminary review determines that the proposal is incomplete or non-responsive to the scope of the stated objectives, the proposal will not be reviewed for technical merit. One copy of any such proposal will be retained for record keeping purposes for three years and all remaining copies will be destroyed. All applications that are complete and responsive to the solicitation will be reviewed for technical merit. Proposals are received and will be reviewed on a rolling basis based on the evaluation criteria listed in the Evaluation Criteria section above. First, at least three independent and objective individuals knowledgeable in the particular area addressed by the proposal will conduct a technical review. If non-federal reviewers are used, the reviewers may discuss the proposals with each other, but scores will be determined on an individual basis, not as a consensus. Second, the Standards Services Group Director or Associate Director or Deputy Associate Director will make funding recommendations, taking into consideration the results of the reviewers' evaluation, the availability of funds, and relevance to the objectives described in the Program Description section of this FFO.

The final approval of selected applications and award of financial assistance will be made by the NIST Grants Officer based on compliance with application requirements as published in this notice, compliance with applicable legal and regulatory requirements, and whether the recommended applicants appear to be responsible. Applicants may be asked to modify objectives, work plans, or budgets and provide supplemental information required by the agency prior to award. The award decision of the Grants Officer is final. Applicants should allow up to 90 days processing time.

Unsuccessful applicants will be notified in writing. The Program will retain one copy of each unsuccessful application for three years for record keeping purposes. The remaining copies will be destroyed.

Law Enforcement Standards Office Grants and Cooperative Agreements Program

Prospective proposers are encouraged to contact the appropriate Program Manager listed in the Agency Contacts section of this FFO announcement to determine the responsiveness of the proposal and compliance with program objectives prior to preparation of a detailed proposal; however, written pre-proposals and white papers are not solicited and will only reviewed for informational purposes.

For the *Law Enforcement Standards Office (OLES) Grants and Cooperative Agreements Program,* responsive proposals will be assigned, as received on a rolling basis, to the most appropriate area for review. Proposals will be reviewed in a three-step process.

First, the appropriate OLES Grants Coordinator will determine the compatibility of the applicant's proposal with OLES Program Areas and the relevance to the objectives of the *Law Enforcement Standards Office Grants and Cooperative Agreements Program,* described in the Program Description section above. If it is determined that the proposal is incomplete or nonresponsive to the scope of the stated objectives, the proposal will not be reviewed for technical merit. If it is determined that sufficient funding is not available to consider grant and cooperative agreement proposals in the technical area of the proposal, the proposal will not be reviewed for technical merit. One copy of any such proposal will be retained

for record keeping purposes for three years and all remaining copies will be destroyed. OLES will post a notice on its web site, http://www.nist.gov/oles, when funds are exhausted for the fiscal year. OLES will notify proposers in writing if their proposals are not reviewed for technical merit.

Second, at least three independent, objective individuals knowledgeable about the relevant scientific area addressed by the proposal will conduct a technical review based on the evaluation criteria. If non-Federal reviewers are used, the reviewers may discuss the proposals with each other, but scores will be determined on an individual basis, not as a consensus. Proposals are received and will be reviewed on a rolling basis based on the evaluation criteria subject to the availability of funds.

Third, the Office Director will make application selections. In making application selections, the Office Director will take into consideration the results of the reviewers' evaluations, the availability of funding, and relevance to the objectives of the *Law Enforcement Standards Office Grants and Cooperative Agreements Program*, as described in the Program Description section above. The final approval of selected applications and award of financial assistance will be made by the NIST Grants Officer based on compliance with application requirements as published in this notice, compliance with applicable legal and regulatory requirements, and whether the recommended applicants appear to be responsible. Applicants may be asked to modify objectives, work plans, or budgets and provide supplemental information required by the agency prior to award. The decision of the NIST Grants Officer is final.

Unsuccessful applicants will be notified in writing. The Program will retain one copy of each unsuccessful application for three years for record keeping purposes. The remaining copies will be destroyed.

3. Anticipated Announcement and Award Dates: Awards will be made approximately 90 days after the end of the review cycle. See information in the Dates section regarding awards made in a subsequent fiscal year.

f. Award Administration Information

1. Award Notices: Successful finalists will receive a grant or cooperative agreement award document from the Grant Officer. The document will be mailed via surface mail in triplicate. The recipient should have an authorized official at the organization sign and return two copies to the address listed in the award document. The award document will also include the standard terms and conditions, general terms and conditions (if any), and special award conditions (if any) that are applicable. To enable the use of a universal identifier and to enhance the quality of information available to the public as required by the Federal Funding Accountability and Transparency Act of 2006, to the extent applicable, any proposal awarded in response to this announcement will be required to use the Central Contractor Registration and Dun and Bradstreet Universal Numbering System and be subject to reporting requirements, as identified in OMB guidance published at 2 CFR Parts 25, 170 (2010), http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title02/2cfr25_main_02.tpl, http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=/ecfrbrowse/Title02/2cfr170_main_02.tpl.

2. Administrative and National Policy Requirements:

The Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements: The Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements, which are contained in the Federal Register Notice of February 11, 2008 (73 Fed. Reg. 7696), are applicable to this notice On the form SF-424 items 8.b. and 8.c., the applicant's 9-digit Employer/Taxpayer Identification Number (EIN/TIN) and 9-digit Dun and Bradstreet Data Universal Numbering System (DUNS) number must be consistent with the information on the Central Contractor Registration (CCR) (www.ccr.gov) and Automated Standard Application for Payment System (ASAP). For complex organizations with multiple EIN/TIN and DUNS numbers, the EIN/TIN and DUNS numbers MUST be the numbers for the applying organization. Organizations that provide incorrect/inconsistent EIN/TIN and DUNS numbers may experience significant delays in receiving funds if their proposal is selected for funding. Please confirm that the EIN/TIN and DUNS number are consistent with the information on the CCR and ASAP.

Collaborations with NIST Employees: All applications should include a description of any work proposed to be performed by an entity other than the applicant, and the cost of such work should ordinarily be included in the budget.

If an applicant proposes collaboration with NIST, the statement of work should include a statement of this intention, a description of the collaboration, and prominently identify the NIST employee(s) involved, if known. Any collaboration by a NIST employee must be approved by appropriate NIST management and is at the sole discretion of NIST. Prior to beginning the merit review process, NIST will verify the approval of the proposed collaboration. Any unapproved

collaboration will be stricken from the proposal prior to the merit review.

Use of NIST Intellectual Property: If the applicant anticipates using any NIST-owned intellectual property to carry out the work proposed, the applicant should identify such intellectual property. This information will be used to ensure that no NIST employee involved in the development of the intellectual property will participate in the review process for that competition. In addition, if the applicant intends to use NIST-owned intellectual property, the applicant must comply with all statutes and regulations governing the licensing of Federal government patents and inventions, described at 35 U.S.C. §§200-212, 37 C.F.R. part 401, 15 C.F.R. §14.36, and in Section B.21 of the Department of Commerce Pre-Award Notification Requirements, 73 Fed. Reg. 7696 (Feb. 11, 2008). Questions about these requirements may be directed to the Chief Counsel for NIST, 301-975-2803.

Any use of NIST-owned intellectual property by a proposer is at the sole discretion of NIST and will be negotiated on a case-by-case basis if a project is deemed meritorious. The applicant should indicate within the statement of work whether it already has a license to use such intellectual property or whether it intends to seek one.

If any inventions made in whole or in part by a NIST employee arise in the course of an award made pursuant to this notice, the United States government may retain its ownership rights in any such invention. Licensing or other disposition of NIST's rights in such inventions will be determined solely by NIST, and include the possibility of NIST putting the intellectual property into the public domain.

Initial Screening of all Applications: All applications received in response to this announcement will be reviewed to determine whether or not they are complete and responsive to the scope of the stated program objectives. Incomplete or non-responsive applications will not be reviewed for technical merit. The Program will retain one copy of each non-responsive application for three years for record keeping purposes. The remaining copies will be destroyed.

Additional Consideration of Applications: NIST programs are often cross-cutting and multi-disciplinary. If a NIST program official believes an application that is not selected for funding may be of interest to another NIST program(s), the official may forward the application to any other NIST program(s) that the program official believes may have an interest in the project, for potential consideration under the other NIST program(s) procedures. If, upon initial screening, the other NIST program(s) finds the application may be of programmatic interest, the application will proceed through the review and selection procedures described in this Notice for the program(s). If not, the application will be returned to the original program for final processing. Any applicant that does not wish for its application to be considered by other NIST programs should indicate on its application that it would like consideration of the project to be limited to the program to which it originally submitted the application. Applicants will be notified if their applications have been forwarded to another NIST program(s) for potential consideration.

Research Projects Involving Human Subjects, Human Tissue, Data or Recordings Involving Human Subjects: Any proposal that includes research involving human subjects, human tissue, data or recordings involving human subjects must meet the requirements of the Common Rule for the Protection of Human Subjects (Common Rule), codified for the Department of Commerce at 15 C.F.R. Part 27. In addition, any proposal that includes research on these topics must be in compliance with any statutory requirements imposed upon the Department of Health and Human Services (DHHS) and other federal agencies regarding these topics, all regulatory policies and guidance adopted by DHHS, the Food and Drug Administration, and other Federal agencies on these topics, and all Presidential statements of policy on these topics.

NIST will accept the submission of human subjects protocols that have been approved by Institutional Review Boards (IRBs) currently registered with DHHS and performed by entities possessing a current, valid Federal-wide Assurance (FWA) from DHHS, that are appropriately linked to the IRB that approved the protocol. NIST will not issue a single project assurance (SPA) for any IRB reviewing any human subjects protocol proposed to NIST.

Generally, the NIST does not fund research involving human subjects in foreign countries. NIST will consider, however, the use of **preexisting** tissue, cells, or data from a foreign source on a limited basis if the following criteria are satisfied:
1. the scientific source is considered unique,
2. an equivalent source is unavailable within the United States,
3. an alternative approach is not scientifically of equivalent merit, and
4. the specific use qualifies for an exemption under the Common Rule.

President Obama has issued Executive Order No. 13,505 (74 FR. 10667, March 9, 2009), revoking previous Executive Orders and Presidential statements regarding the use of human embryonic stem cells in research. On July 30, 2009, President Obama issued a memorandum directing that agencies that support and conduct stem cell research adopt the "National Institutes of Health Guidelines for Human Stem Cell Research" (NIH Guidelines), which became effective on July 7, 2009, "to the fullest extent practicable in light of legal authorities and obligations." On September 21, 2009, the

Department of Commerce submitted to the Office of Management and Budget a statement of compliance with the NIH Guidelines. In accordance with the President's memorandum, the NIH Guidelines, and the Department of Commerce statement of compliance, NIST will support and conduct research using only human embryonic stem cell lines that have been approved by NIH in accordance with the NIH Guidelines and will review such research in accordance with the Common Rule, as appropriate. NIST will not support or conduct any type of research that the NIH Guidelines prohibit NIH from funding. NIST will follow any additional polices or guidance issued by the current Administration on this topic.

Research Projects Involving Vertebrate Animals: Any proposal that includes research involving vertebrate animals must be in compliance with the National Research Council's "Guide for the Care and Use of Laboratory Animals" which can be obtained from National Academy Press, 2101 Constitution Avenue, NW., Washington, DC 20055. In addition, such proposals must meet the requirements of the Animal Welfare Act (7 U.S.C. §2131 et seq.), 9 C.F.R. Parts 1, 2, and 3, and if appropriate, 21 C.F.R. Part 58. These regulations do not apply to proposed research using pre-existing images of animals or to research plans that do not include live animals that are being cared for, euthanized, or used by the project participants to accomplish research goals, teaching, or testing. These regulations also do not apply to obtaining animal materials from commercial processors of animal products or to animal cell lines or tissues from tissue banks.

Limitation of Liability:
Funding for the programs listed in this notice is contingent upon the availability of Fiscal Year 2010 appropriations. Funding for the programs listed in this notice is contingent upon the availability of Fiscal Year 2011 appropriations. NIST issues this notice subject to the appropriations made available under the current continuing resolution, S. Amend. to H.R. 3081, "Continuing Appropriations Resolution, 2011," Public Law 111-242, as amended by H.J.Res. 101, "Further Continuing Appropriations, 2011," Public Law 111-290; H.J.Res. 105, "Further Continuing Appropriations, 2011," Public Law 111-317; and H.R 3082, "Further Continuing Appropriations, 2011," Public Law 111-322. NIST anticipates making awards for the programs listed in this notice provided that funding for the programs is continued beyond March 4, 2011, the expiration of the current continuing resolution. In no event will NIST or the Department of Commerce be responsible for proposal preparation costs if these programs fail to receive funding or are cancelled because of agency priorities. Publication of this announcement does not oblige NIST or the Department of Commerce to award any specific project or to obligate any available funds.

Collaborations Making use of Federal Facilities: All applications should include a description of any work proposed to be performed using Federal Facilities.

If an applicant proposes use of NIST facilities, the statement of work should include a statement of this intention and a description of the facilities. Any use of NIST facilities must be approved by appropriate NIST management and is at the sole discretion of NIST. Prior to beginning the merit review process, NIST will verify the availability of the facilities and approval of the proposed usage. Any unapproved facility use will be stricken from the proposal prior to the merit review. Examples of some facilities that may be available for collaborations are listed on the NIST Technology Services web site, http://www.nist.gov/user-facilities.cfm.

Reporting: Successful finalists will be required to submit, on a semi-annual basis, for the periods ending March 31 and September 30 of each year, a technical progress report and a SF-269, Financial Status Report. From time to time, and in accordance with the Uniform Administrative Requirements and other terms and conditions governing the award, the recipient may need to submit property and patent reports. The Federal Funding Accountability and Transparency Act of 2006 includes a requirement for awardees of applicable Federal grants to report information about first-tier subawards and executive compensation under Federal assistance awards issued in FY 2011 or later. All awardees of applicable grants and cooperative agreements are required to report to the Federal Subaward Reporting System (FSRS) available at www.FSRS.gov on all subawards over $25,000.

For the *Fire Research Grants Program*, in addition to semi-annual progress reports, an annual project description will be requested for all grants and cooperative agreements. The project description will be due in September 2010 (or one month after the initiation of the grant, if the start date is after September 2010.) A template for the project description will be available from Ms. Wanda Duffin-Ricks (Email: wanda.duffin@nist.gov; Tel: 301-975-6863). In addition, a final report describing the technical results of the grant or cooperative agreement at the conclusion of the award period is required 90 days after the conclusion of the award period. The final report should include a list, if appropriate, of the names of students for whom the grant support a portion of their work toward an advanced degree. The date and name of the degree should also be listed.

g. Agency Contact(s):

Material Measurement Laboratory Grants Program

Program questions should be addressed to Ms. Donna Kimball, Material Measurement Laboratory, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8300, Gaithersburg, MD 20899-8300, Tel (301) 975-8362, E-Mail: donna.kimball@nist.gov.

Physical Measurement Laboratory Grants Program

Program questions should be addressed to Sheilda Bryner, Physical Measurement Laboratory, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8100, Gaithersburg, MD 20899-8100, Tel.: (301) 975-2959, Fax: (301) 975-4091, E-Mail: sheilda.bryner@nist.gov.

Engineering Laboratory Grants Program

Program questions should be addressed to Karen Perry, Engineering Laboratory, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8602, Gaithersburg, MD 20899-8602, Tel.: (301) 975-5910, karen.perry@nist.gov , Fax: (301) 975-4032, and web site http://www.bfrl.nist.gov.

Fire Research Grants Program

Program questions should be addressed to Ms. Wanda Duffin-Ricks, Engineering Laboratory (EL), National Institute of Standards and Technology, 100 Bureau Drive, Stop 8660, Gaithersburg, Maryland 20899-8660, Tel: (301) 975-6863, E-mail: wanda.duffin@nist.gov , Website: http://www. nist.gov/el/.

Information Technology Laboratory Grants Program

Program questions should be addressed to Gerlinde Harr, Information Technology Laboratory, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8900, Gaithersburg, MD 20899-8900, Tel.: (301) 975-2901, gharr@nist.gov, Fax: (301) 975-2378, website: http://www.itl.nist.gov . It is strongly suggested to first confirm the program objectives with the Program Manager prior to preparing a detailed proposal.

NIST Center for Neutron Research Grants Program

Program questions should be addressed to Dr. Dan Neumann, NIST Center for Neutron Research, National Institute of Standards and Technology, 100 Bureau Drive, Stop 6102, Gaithersburg, Maryland 20899-6102, Tel: (301) 975-5252, E-mail: dan.neumann@nist.gov.

Center for Nanoscale Science and Technology Grants and Cooperative Agreements Program

Program questions should be addressed to Donna Lauren, Center for Nanoscale Science and Technology, National Institute of Standards and Technology, 100 Bureau Drive, Stop 6200, Gaithersburg, Maryland 20899-6200. Tel (301) 975-3729, E-Mail: donna.lauren@nist.gov.

Standards Services Group Grants and Cooperative Agreements Program

Program questions should be addressed to Kerry Miles, National Institute of Standards and Technology, 100 Bureau Drive, Stop 2150, Gaithersburg, MD 20899-2000, Tel.: (301) 975-5571, Kerry.miles@nist.gov , Fax: (301) 975-4715, and web site http://gsi.nist.gov/global/index.cfm/L1-1.

Law Enforcement Standards Office Grants and Cooperative Agreements Program

Program questions should be addressed to the appropriate Program Manager for each field of research as described in the Program Description section above:

Counterterrorism and Response Technologies Program
William Billotte, Law Enforcement Standards Office, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8102, Gaithersburg, MD 20899-8102, Tel (301) 975-8610, E-Mail: william.billottelast@nist.gov.

Detection, Enforcement, and Inspection Program
N.G. Paulter, Law Enforcement Standards Office, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8102, Gaithersburg, MD 20899-8102, Tel (301) 975-2405, E-Mail: nicholas.paulter@nist.gov.

Forensic Sciences Program
Melissa Taylor, Law Enforcement Standards Office, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8102, Gaithersburg, MD 20899-8102, Tel (301) 975-6363, E-Mail: melissa.taylor@nist.gov.

Protective Systems Research Program
Kirk Rice, Law Enforcement Standards Office, National Institute of Standards and Technology, 100 Bureau Drive, Stop 8102, Gaithersburg, MD 20899-8102, Tel (301) 975-8071, E-Mail: kirk.rice@nist.gov.

Public Safety Communication Research Program
Dereck Orr, Law Enforcement Standards Office, National Institute of Standards and Technology, 325 Broadway, Stop ITS.P, Boulder, CO 80305-3328, Tel (303) 497-5400, E-Mail: dereck.orr@nist.gov.

The following applies to ALL programs listed in this funding opportunity notice:

Grants administration questions concerning this program should be addressed to: Christopher Hunton, NIST Grants and Agreements Management Division, (301) 975-5718; christopher.hunton@nist.gov . For assistance with using Grants.gov contact support@grants.gov or (800) 518-4726.